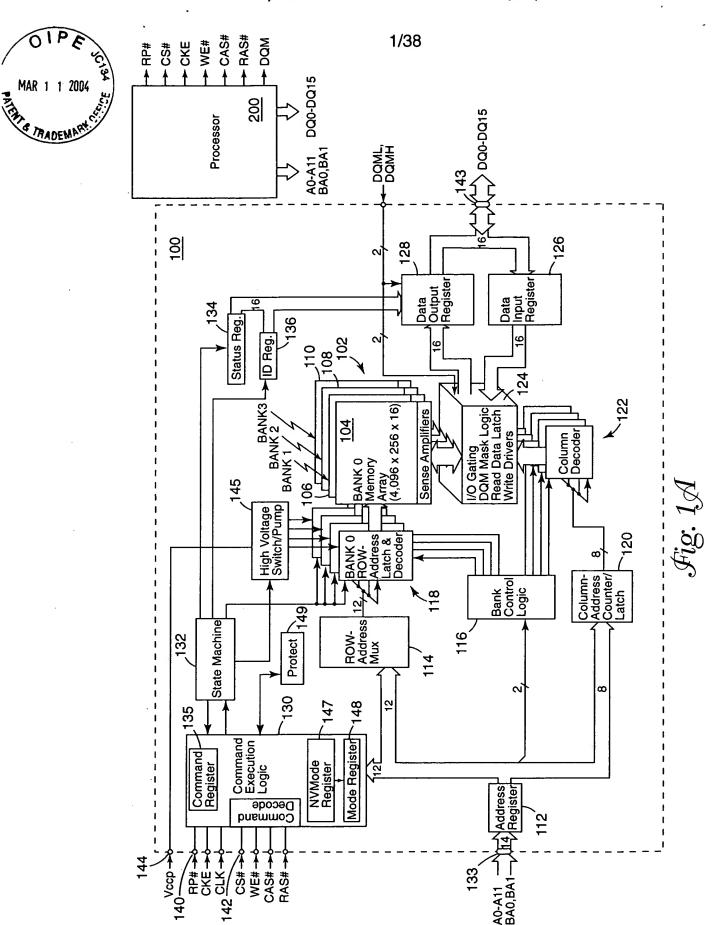
F.9. 1A







|                           |     | $\sqrt{}$                                 |
|---------------------------|-----|---|
| Vcc 田 1*                  |     | 54 W Vss                                  |
| DQ0 III 2<br>VccQ III 3   |     | 53 ⊞ DQ15<br>52 ⊞ VssQ                    |
| DQ1 H 4                   |     | 52 H VSSQ<br>51 H DQ14                    |
| DQ2 III 5                 |     | 50 DQ13                                   |
| VssQ ⊞ 6                  | 150 | 49 🖽 VccQ                                 |
| DQ3 🖽 7                   | 150 | 48 🗇 DQ12                                 |
| DQ4 🖽 8                   |     | 47 듚 DQ11                                 |
| VccQ 🖂 9                  |     | 46 ፟፟፟ VssQ                               |
| DQ5 🎞 10                  |     | 45 🗀 DQ10                                 |
| DQ6 🖂 11                  |     | 44 🞞 DQ9                                  |
| VssQ III 12               |     | 43 W VccQ                                 |
| DQ7 田 13                  |     | 42 DQ8                                    |
| Vcc III 14<br>DQML III 15 |     | 41 U Vss<br>40 RP# 152                    |
| DQML   15<br>WE#   16     |     | 40   RP#   152<br>39   DQMH               |
| CAS# 🖂 17                 |     | 38 III CLK                                |
| RAS# 18                   |     | 37 🗀 CKE                                  |
| CS# 🖂 19                  |     | 36 \( \overline{VccP} \) \( \text{154} \) |
| BA0 🎞 20                  |     | 35 🞞 A11                                  |
| BA1 🞞 21                  |     | 34 ದ A9                                   |
| A10 □ 22                  |     | 33 🗀 A8                                   |
| A0 🖽 23                   |     | 32 <u>— A7</u>                            |
| A1                        |     | 31 H A6                                   |
| A2 III 25                 |     | 30 H A5                                   |
| A3 III 26                 |     | 29  |
| Vcc <u>□ 27</u>           |     |   |

Fig. 1B



| 0                 |            |              |
|-------------------|------------|--------------|
| 1 2               |            | 7 8          |
| A (DQ15) (Vss)    |            | (Vcc) (DQ0)  |
| B (DQ14) (VssQ)   | 400        | (Vee0) (DO1) |
| B (DQ14) (VssQ)   | <u>160</u> | (VccQ) (DQ1) |
| C (VccQ) (DQ13)   |            | (DQ2) (VssQ) |
| National National |            |              |
| D (DQ11) (DQ12)   |            | (DQ3) (DQ4)  |
| E (DQ10) (VssQ)   |            | (VccQ) (DQ5) |
|                   |            |              |
| F (VccQ) (DQ9)    |            | (DQ6) (VssQ) |
| G (NC) (DQ8)      |            | (DQ7) (NC)   |
|                   |            |              |
| H (NC) (Vss)      |            | (Vcc) (DQML) |
| J (NC) DOMH       |            | (WE#) (CAS#) |
|                   |            |              |
| K (RP#) (CLK)     |            | (RAS#) (NC)  |
| L (VccP) (CKE)    |            | (NC) (CS#)   |
| L VCCF ORL        |            | 100 (00#)    |
| M (A11) (A9)      |            | (BA1) (BA0)  |
|                   |            | (0) (0)      |
| N (A8) (A7)       |            | (A0) (A10)   |
| P (A6) (A5)       |            | (A2) (A1)    |
|                   |            |              |
| R (A4) (Vss)      |            | (Vcc) (A3)   |
| 1                 |            |              |



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| Fig. $2A$ |  |
|-----------|--|
| Fig. 2B   |  |

 $\mathcal{F}ig. 2$ 



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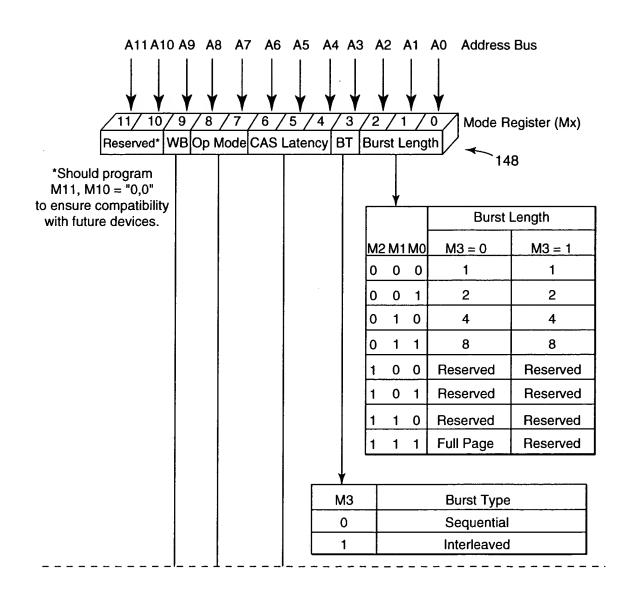


Fig. 2A



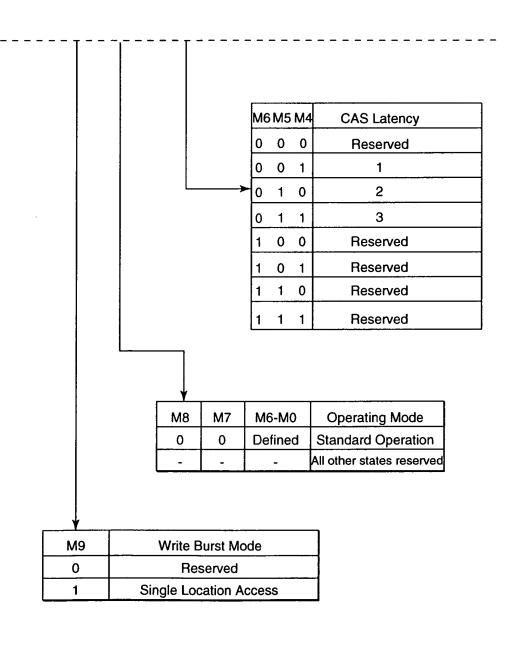
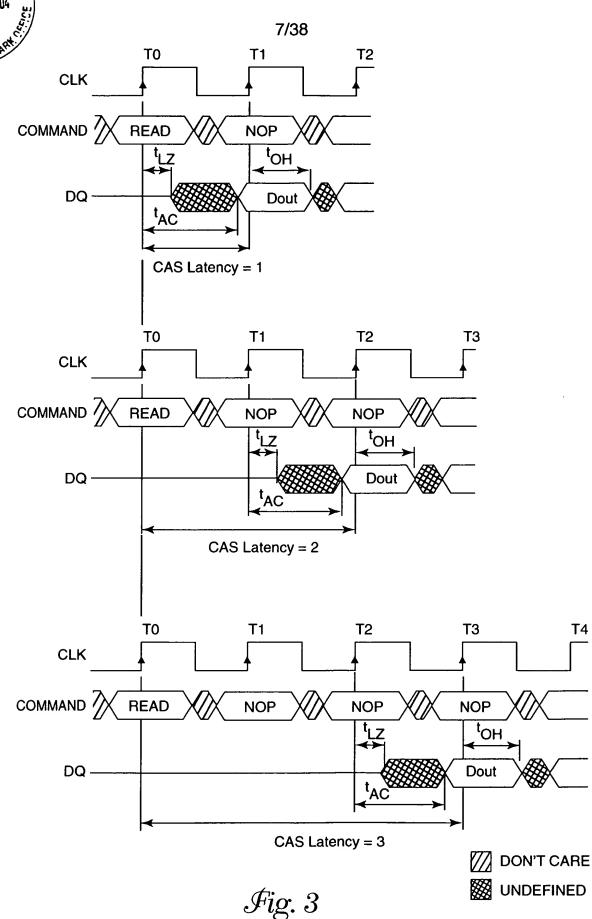


Fig. 2B

# MAR 1 1 2004 W.

#### First Named Inventor: Frankie F. Roohparvar SYNCHRONOUS FLASH MEMORY WITH ACCESSIBLE PAGE DURING WRITE Atty Docket No. 400.044US01 Serial No. 09/627,770





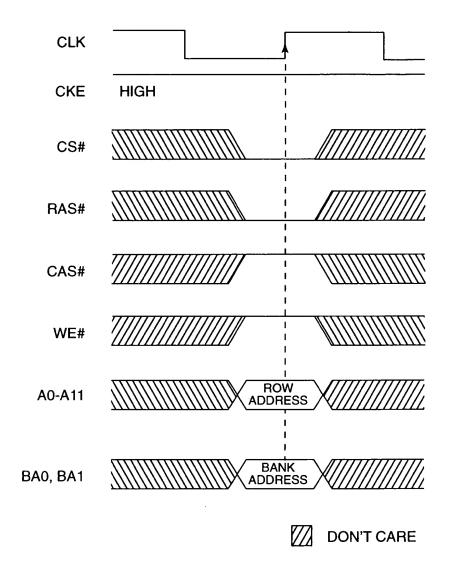
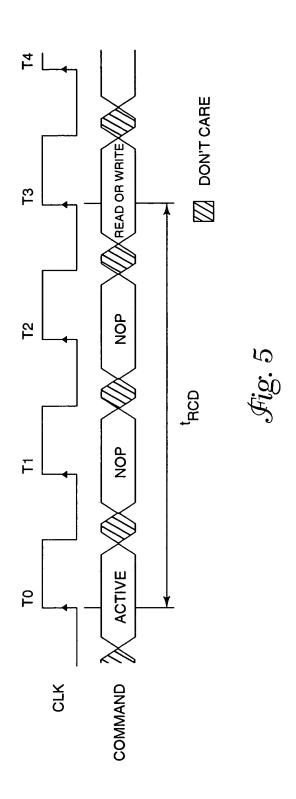


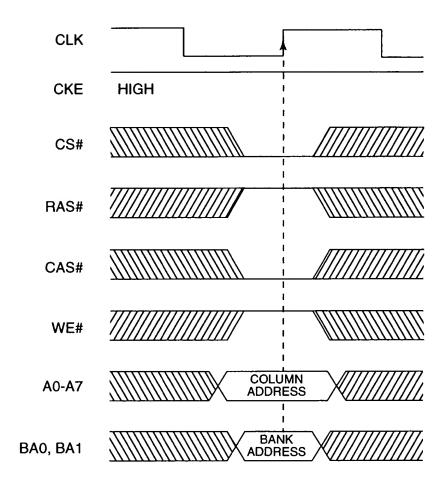
Fig. 4







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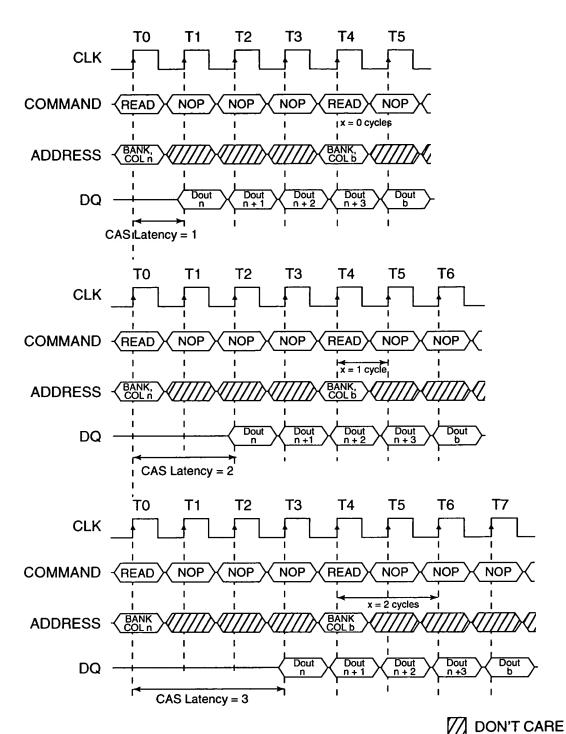


DON'T CARE

Fig. 6



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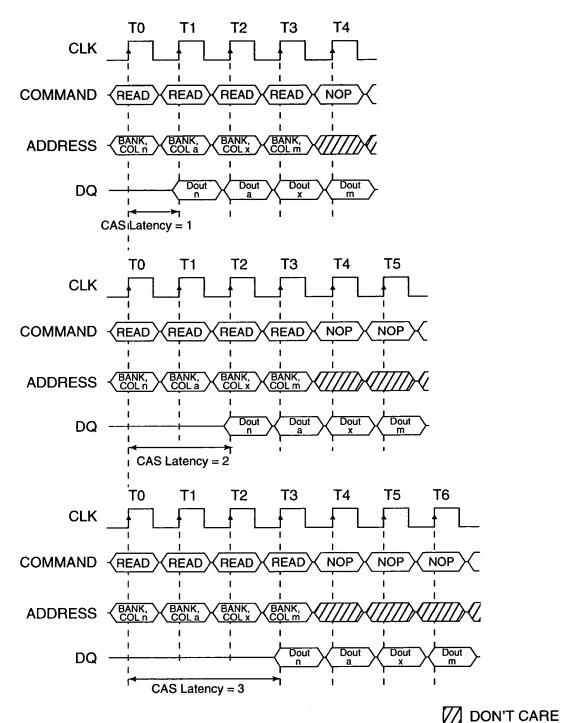


NOTE: Each READ command may be to either bank. DQM is LOW.

Fig. 7



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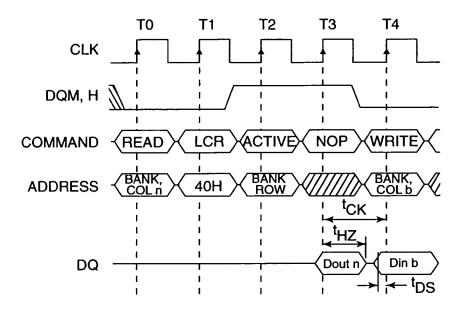


NOTE: Each READ command may be to either bank. DQM is LOW.

Fig. 8



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NOTE:

A CAS latency of three is used for illustration. The READ command may be to any bank, and the WRITE command may be to any bank. If a CAS latency of one is used, then DQM is not required.

DON'T CARE

Fig. 9



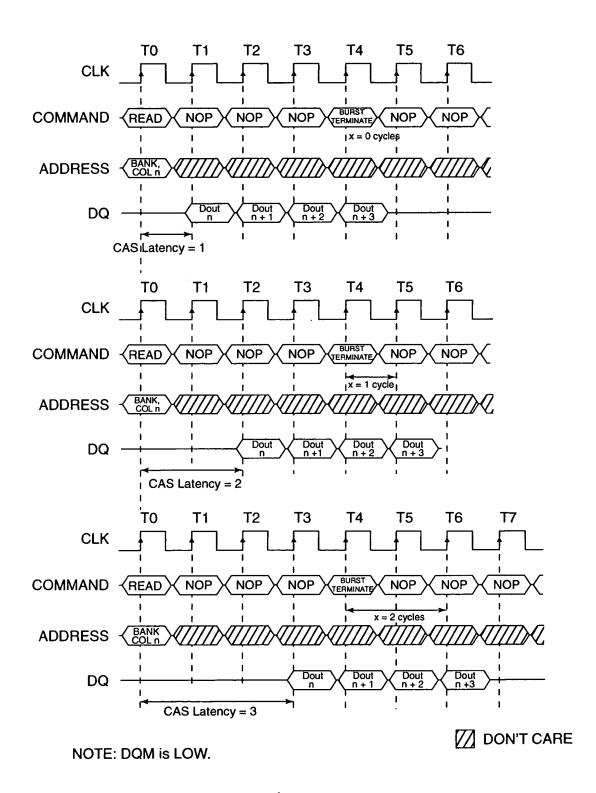


Fig. 10



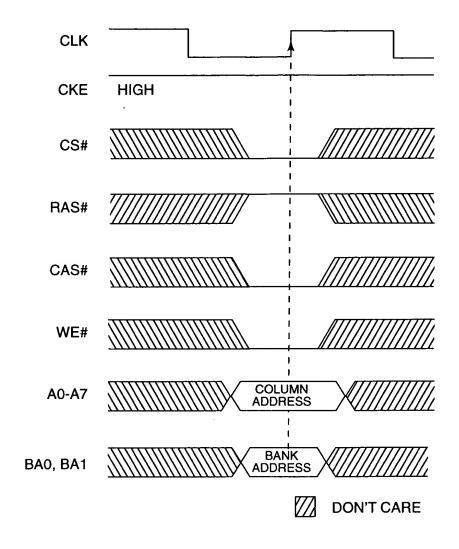
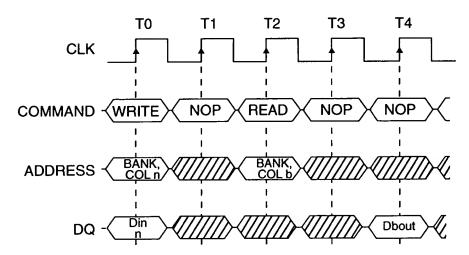


Fig. 11



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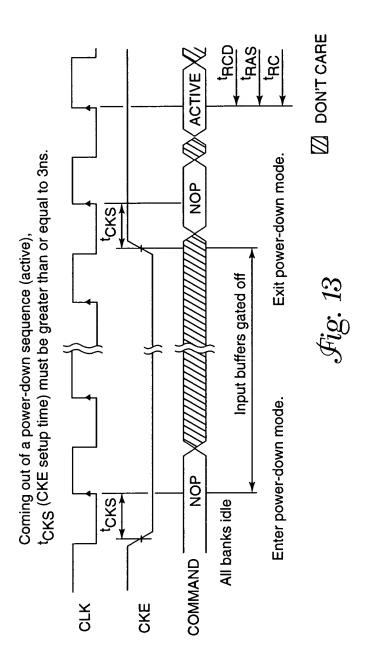


NOTE: A CAS latency of two is used for illustration. The WRITE command may be to any bank and the READ command may be to any bank. DQM is LOW. A READ to the bank undergoing the WRITE ISM operation may output invalid data.

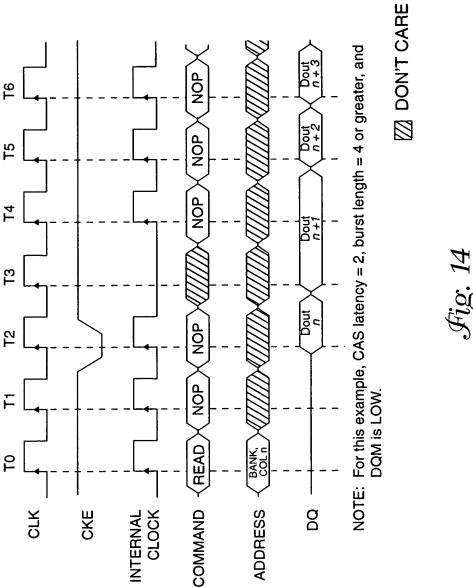
DON'T CARE

Fig. 12











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#### **ADDRESS RANGE**

|        | 8         | arix Qu      | OH COI     | ift <sup>r</sup> |    |      |
|--------|-----------|--------------|------------|------------------|----|------|
|        | 3         | FFF<br>C00   | FFH<br>00H | 256K-Word Block  | 15 | 210  |
| k 3    | 333333333 | BFF<br>800   | FFH<br>00H | 256K-Word Block  | 14 |      |
| Bank 3 | 3         | 7FF<br>400   | FFH<br>00H | 256K-Word Block  | 13 |      |
|        | 3<br>3    | 3FF<br>000   | FFH<br>00H | 256K-Word Block  | 12 |      |
|        | 2         | FFF<br>C00   | FFH<br>00H | 256K-Word Block  | 11 |      |
| k 2    | 22222222  | BFF<br>800   | FFH<br>00H | 256K-Word Block  | 10 |      |
| Bank 2 | 2         | 7FF<br>  400 | FFH<br>00H | 256K-Word Block  | 9  |      |
|        | 2<br>2    | 3FF<br>000   | FFH<br>00H | 256K-Word Block  | 8  |      |
|        | 1         | FFF<br>C00   | FFH<br>00H | 256K-Word Block  | 7  |      |
| k 1    | 1         | BFF<br>800   | FFH<br>00H | 256K-Word Block  | 6  |      |
| Bank 1 | 1         | 7FF<br>400   | FFH<br>00H | 256K-Word Block  | 5  |      |
|        | 1         | 3FF<br>000   | FFH<br>00H | 256K-Word Block  | 4  |      |
|        | 0         | FFF<br>C00   | FFH<br>00H | 256K-Word Block  | 3  |      |
| ٥)     | . ŏ       | BFF<br>800   | FFH<br>00H | 256K-Word Block  | 2  |      |
| Bank 0 | Ŏ         | 7FF<br>400   | FFH<br>00H | 256K-Word Block  | 1  | 220  |
|        | 0         | 3FF<br>000   | FFH<br>00H | 256K-Word Block  | 0  | _220 |

Word-wide (x16)

| Software Lock = Hardware-Lock Sectors            |
|--|
| RP# = V <sub>HH</sub> to unprotect if either the |
| block protect or device protect bit is set.      |

Software Lock = Hardware-Lock Sectors
RP# = Vcc to unprotect but must be Vнн
if the device protect bit is set.

See BLOCK PROTECT/UNPROTECT SEQUENCE for detailed information.

Fig. 15



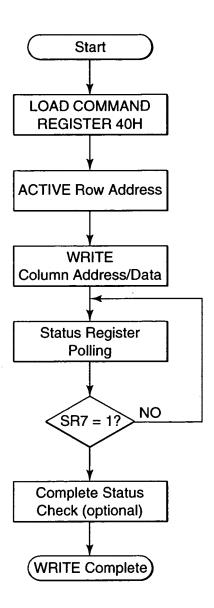


Fig. 16



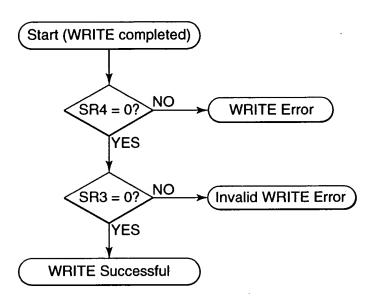


Fig. 17



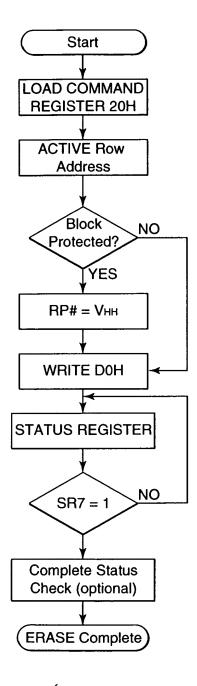


Fig. 18



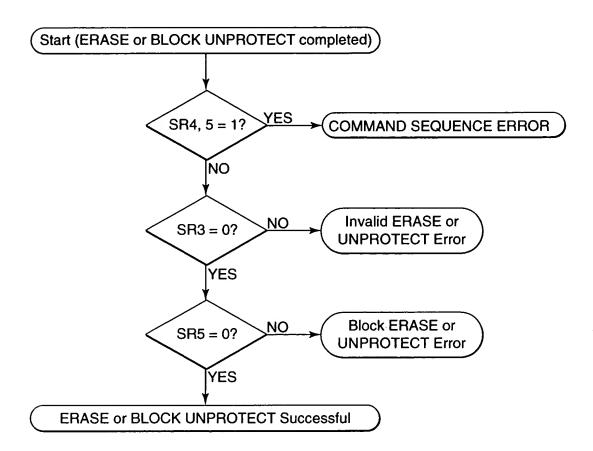


Fig. 19



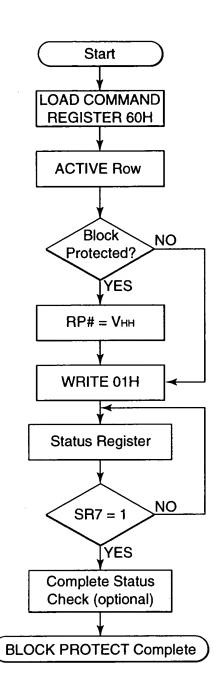


Fig. 20



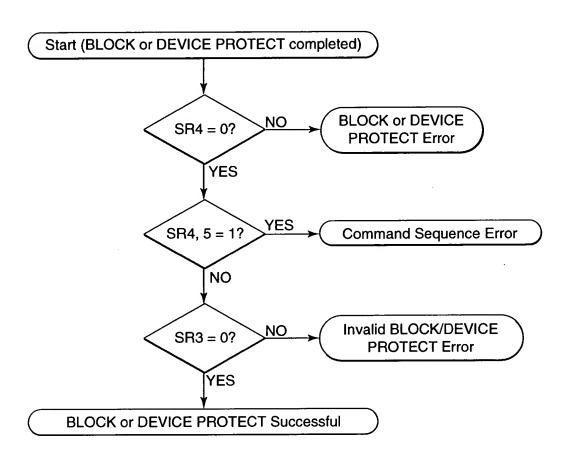


Fig. 21



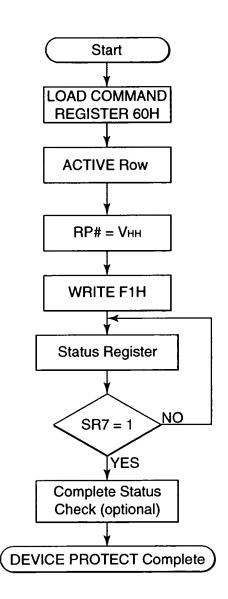


Fig. 22



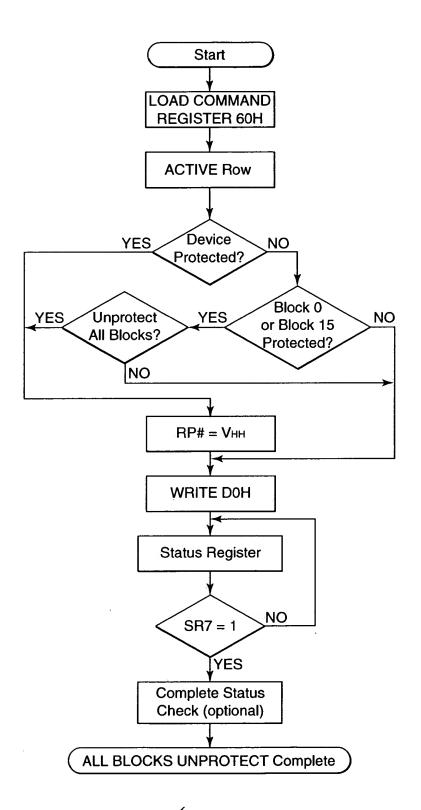


Fig. 23



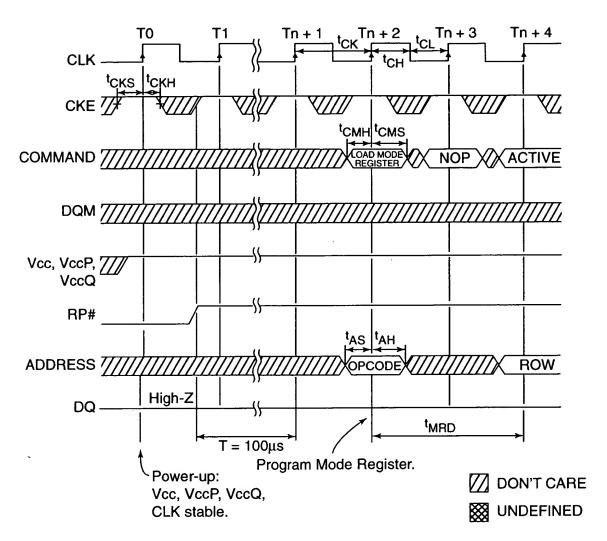
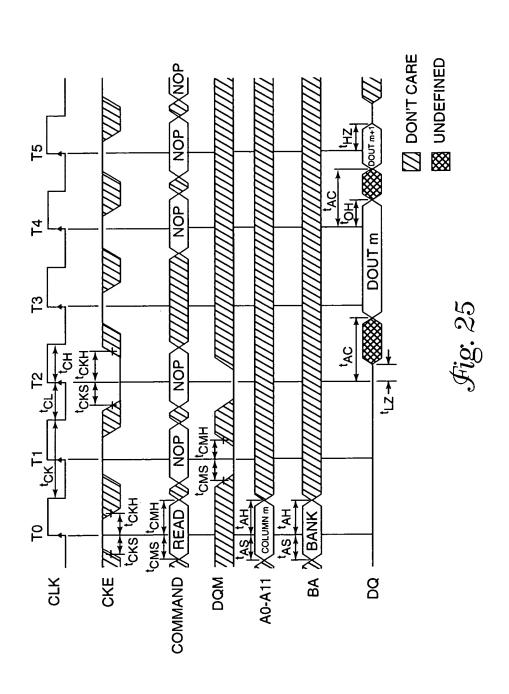
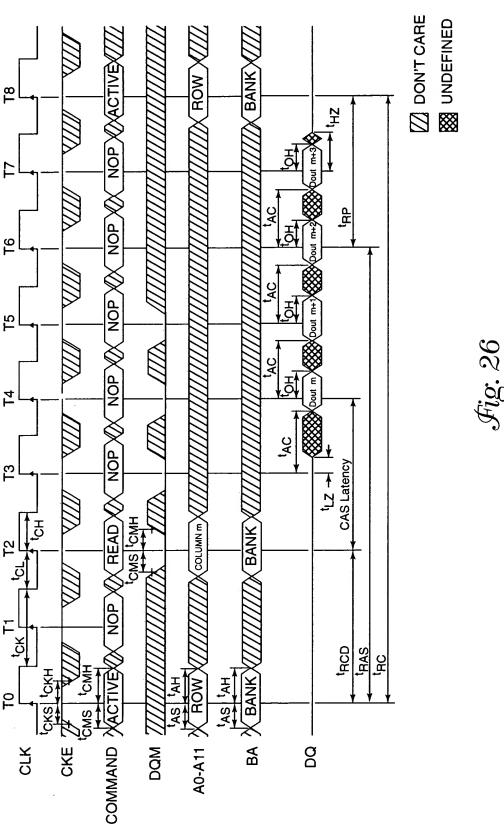


Fig. 24

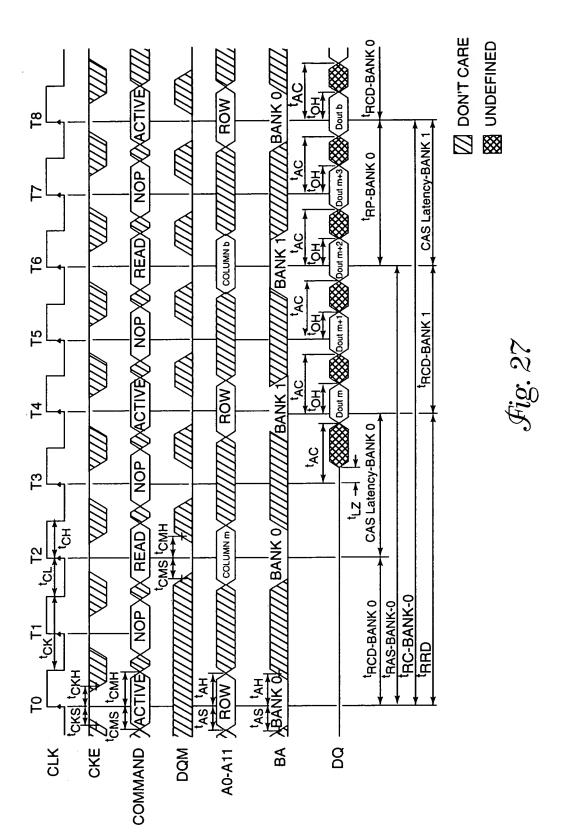




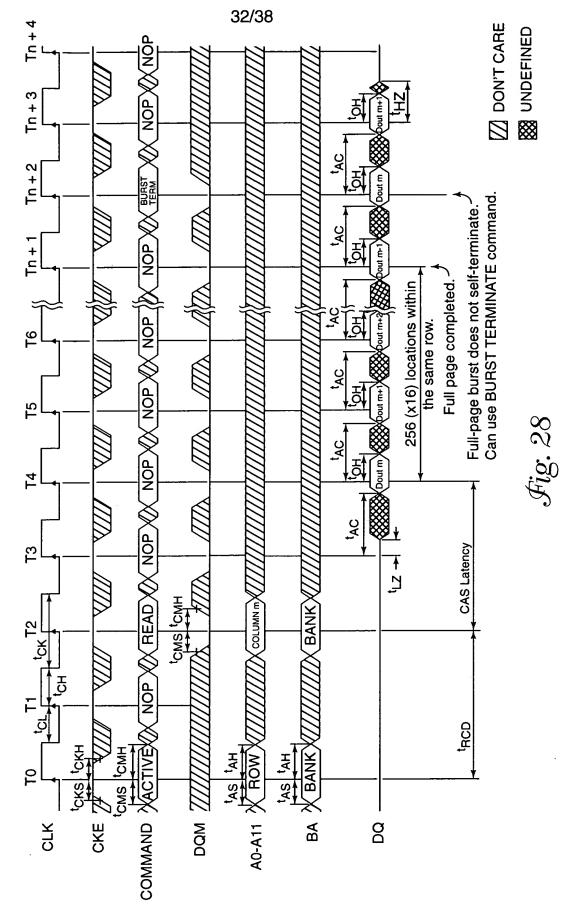




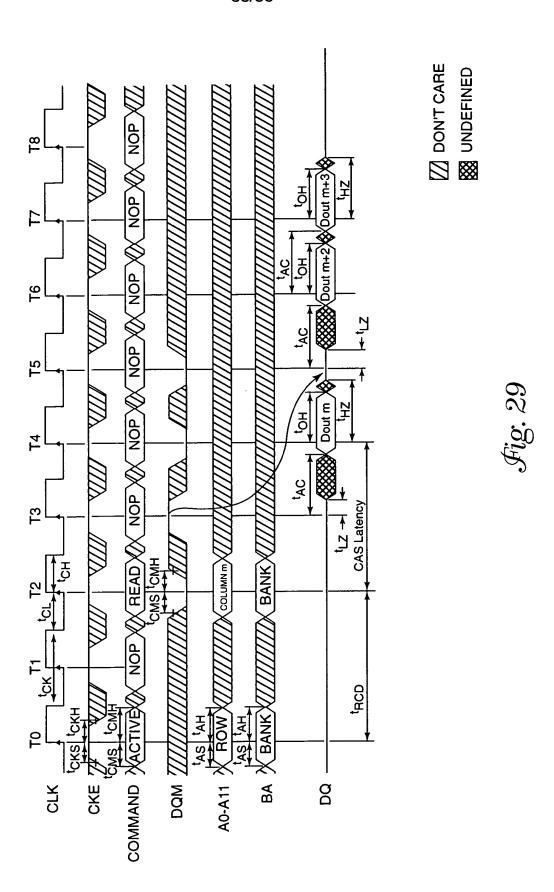




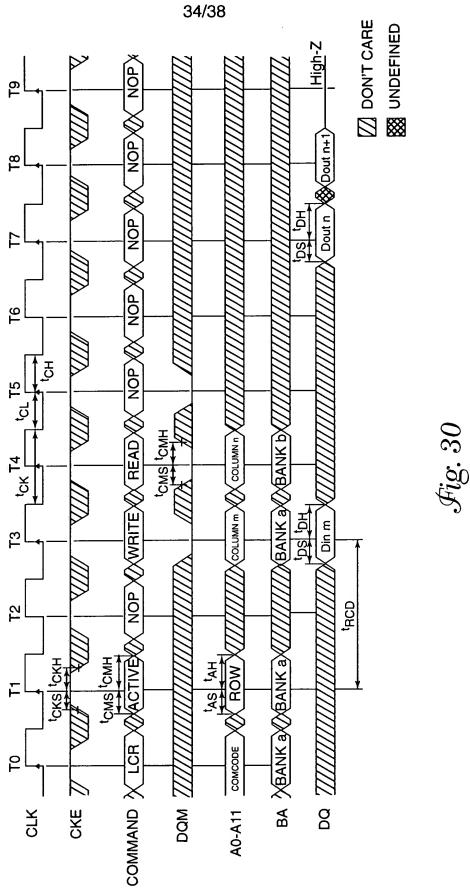




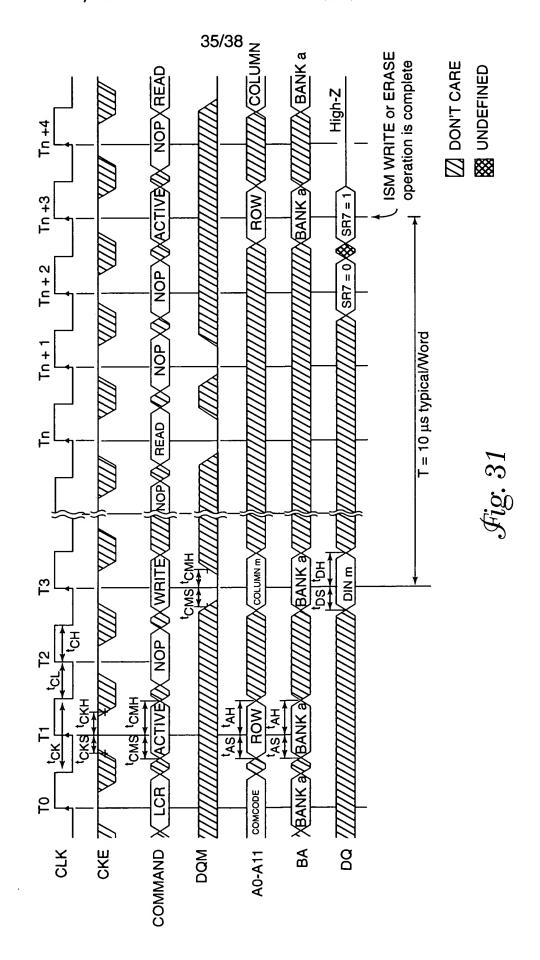






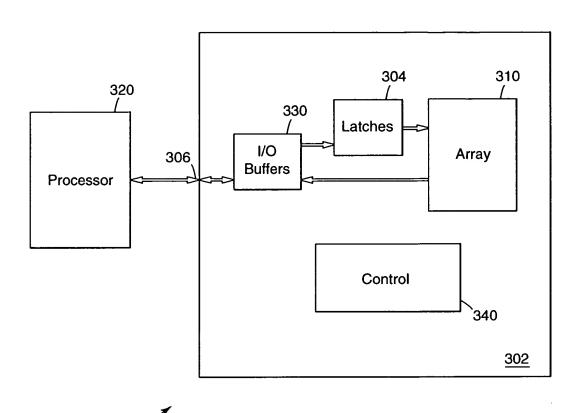








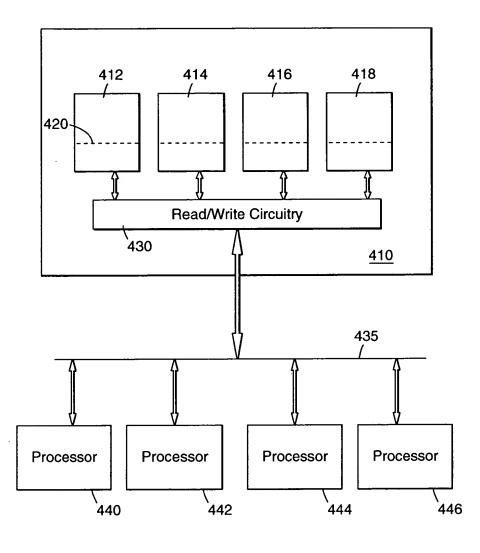
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300 Fig. 32



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#ig. 33



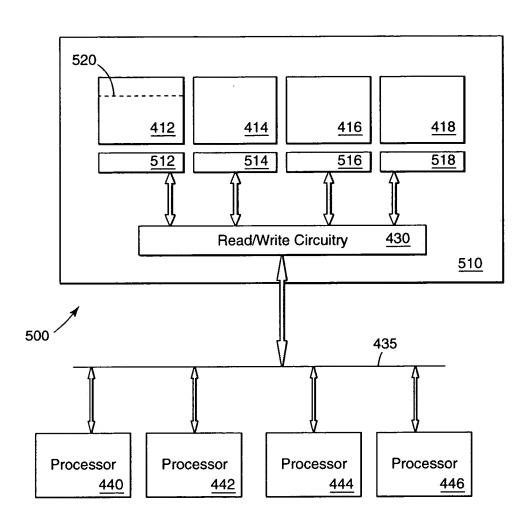


Fig. 34